

REMARKS

Amendment: This is the filing of an amendment under 37 CFR 1.111 responsive to the office action dated 12/27/2006.

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Drawing: Applicant has provided an amended figure 5 filed under 37 CFR 1.121, which is labeled as a replacement sheet, and includes a redlined "Annotated sheet" to show changes.

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Specification:

With regard to the drawing objection of figure 5 for failure to show an initial correction value which is half of the initial gain value, applicant notes that the initial gain value V_{gc} is $2^{(n-1)}-1$, where the $(n-1)$ exponent term results in half of the maximum available gain value of 2^n-1 . For example, for $n=7$ shown in figure 6, the maximum gain value 2^n-1 would be 127, whereas the initial gain setting $2^{(n-1)}-1$ would be 63 (011 1111 shown in 198 fig 6), which is substantially half of 127, and on the first iteration ($k=1$), the correction term $2^{(n-k-1)}$ is added or subtracted, which would be 32 (binary 010 0000 shown in step 200/202 of fig 6)), or half of the initial gain value in the current example where $n=8$, $k=1$. Applicant has amended figure 5 to show the initial value of $k=1$, rather than the incorrect $k=0$, which results in the halving described in the

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specification, in agreement with the description of k shown in figure 6. Additionally, figure 5 is amended to show the initial computation of m based on system parameters, as described on page 21 of the specification.

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With regard to the objection of the specification page 5 line 20 RMS, the specification is amended to define this acronym, which is commonly known in the electrical engineering arts as "root mean square", a computational technique which is useful for determining the power level of a signal. Root mean square is commonly known computational technique, detailed explanations of which may be found in the IEEE dictionary of technical terms, and as such, the amendment of the present paragraph adds no new matter.

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With regard to the specification objections of the examiner, the following amendments are made:

page 15 lines 14-15, the specification is amended to reference "T1 16 interval";

20 page 15 line 16, the specification is amended to reference "frame data 14";

page 15 line 17, the specification is amended to reference "T1 16 time";

25 page 15 line 18, the specification is amended to reference "T2 18 time".

page 15 line 20, the specification is amended to
reference "AGC";

page 16, lines 13,14,21, the specification is amended
to reference "A/D".

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With regard to the claims objection for the
specification failing to recite an "Ethernet" packet,
applicant has amended the paragraph on page 2 line 16 which
references the IEEE 802 series of Ethernet standards. No
10 new matter is added by this amendment.

Claims:

15 With regard to the objection for claims numbering,
applicant has renumbered claims 22-42 to match the numbering
referenced by the examiner.

With regard to the objection of claims 2-9, 11-19,
20 these claims are amended to recite "wherein".

Applicant notes that claims 2 and 11 are amended to
recite a limitation for m which appears on page 21 of the
specification, and new claims 43-44 contains the amended
25 form of original claims 2 and 11, respectively. New claims

46-47 contain the limitation for m as recited for amended claim 3.

With regard to the objection of claim 1, applicant has
5 provided indentation as suggested by the examiner.

With regard to the objection of claims 1 and 28,
applicant has amended these claims to recite "the initial
digital gain value".

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With regard to the objection of claims 1 and 28,
applicant has amended these claims to recite "the rms
value".

15 With regard to the objection of claims 1 and 28,
applicant has amended these claims to recite "threshold
voltage value".

With regard to the objection of claims 1 and 28,
20 applicant has amended these claims to recite "said
correction value".

With regard to the objection of claims 2-9 line 1,
applicant has amended these claims to recite the preamble
25 from claim 1.

With regard to the objection of claim 3, applicant has deleted "digital gain" preceding "maximum value".

With regard to the objection of claim 3, 12, 20, 33,
5 applicant notes that n is defined as the width of the binary gain control value in each respective independent claim 1, 10. 20, and 33.

With regard to the objection of claim 4, "digital gain"
10 is deleted preceding "maximum value", n was defined in independent claim 1, and k is now properly defined.

With regard to the objection of claims 7 and 16, "the"
is amended to "The".
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With regard to the objection of claims 8, 9, 17-19, 25-27, 30-32, 35-37 and 40-42, applicant has amended "Ethernet"

With regard to the objection of claims 8, 17, 25, 30,
20 35, and 40, applicant has amended "a preamble"

With regard to the objection of claims 9, 18, 26, 31, 36, and 41, applicant has amended "a frame"

25 With regard to the objection of claim 10, applicant has amended "half of".

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With regard to the objection of claim 20, applicant has amended "coupled to said digital control input,"

5 With regard to the objection of claims 21-27, applicant has amended "RF front end".

With regard to the objection of claim 20, applicant has defined n, m, and amended antecedent references to
10 "Quadrature output digital values" and also provided antecedence in the amended references to "said threshold value".

Applicant notes that claim 21 is amended to recite a
15 limitation for m found on page 21 of the application, and the text of amended claim 21 drawn to 3,4,5 is now found in claim 45.

With regard to the objections of claim 28, applicant
20 has amended the claim to operate as an apparatus rather than a method, and amended the preambles to claims 29-32 accordingly. Additionally in claim 28, applicant has amended the terms "the rms value".

25 With regard to the objections of claim 33, applicant has amended the claim as suggested by examiner to include

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"respectively", more completely define n, and reference the term "said threshold value".

With regard to the objection of claim 34, applicant has
5 amended "The".

With regard to the objection of claims 34-37, applicant has amended "The RF front end".

10 With regard to the objection of claim 38, applicant has deleted "of".

With regard to the objection of claim 39, applicant has amended "The".

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With regard to the 35 USC 112 rejection of claim 1, applicant has amended the claim to recite the correction value as a value which is initially set to substantially half of the initial digital gain value, and the correction
20 value is halved at each iteration, being added or subtracted to the digital gain value at each iteration.

With regard to the 35 USC 112 rejection of claim 4, applicant has amended the claim to recite a "said correction
25 value" to more exactly read on the "correction value" of claim 1.

With regard to the 35 USC 112 rejection of claims 5-6, applicant has amended claims 5-6 to recite a "said correction value" to more fully read on the "correction value" of claim 1.

With regard to the 35 USC 112 rejection of claim 7, applicant has amended claim 7, applicant has deleted the terms "said iteration time" and "said iteration" in favor of first and second intervals having a duration time, during which time the interval between each iteration varies.

With regard to the 35 USC 112 rejection of claim 10, applicant has amended this claim to more clearly define Vcorrection in the fourth step.

With regard to the 35 USC 112 rejection of claim 12, applicant has amended the claim from "said Vagc maximum value" to "said Vagc has a maximum value", which has proper antecedent basis in claim 10.

With regard to the 35 USC 112 rejection of claim 13 "said digital gain correction", applicant notes that "gain correction" is digital, however, applicant has has amended this claim to recite "said gain correction".

With regard to the 35 USC 112 rejection of claims 14-15 "said digital Vcorrection value", applicant notes that Vcorrection is a digital value, however applicant has amended this claim to recite "said Vcorrection value".

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With regard to the 35 USC 112 rejection of claims 22-23, applicant notes that "said digital correction value" is replaced by "said correction value", which reads directly on the antecedent value of claim 20.

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With regard to the 35 USC 112 rejection of claim 28, applicant notes that the claim is amended to precisely recite the correction as being added or subtracted from the digital gain value on each iteration.

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With regard to the 35 USC 112 rejection of claims 38, applicant has amended this claim to recite more fully the correction value halving step which is performed in each iteration. Applicant also notes that the correction value is the term $2^{(n-k-1)}$ of figure 5 steps 168 and 170. The increasing iteration variable is subtracted from the exponent term, halving the correction value on each iteration.

New claims 43, 44, and 45 are in the amended form of previously presented claims 2, 11, and 21, respectively, and new claims 46-47 are dependent claims drawn to independent

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